Fig. 1.

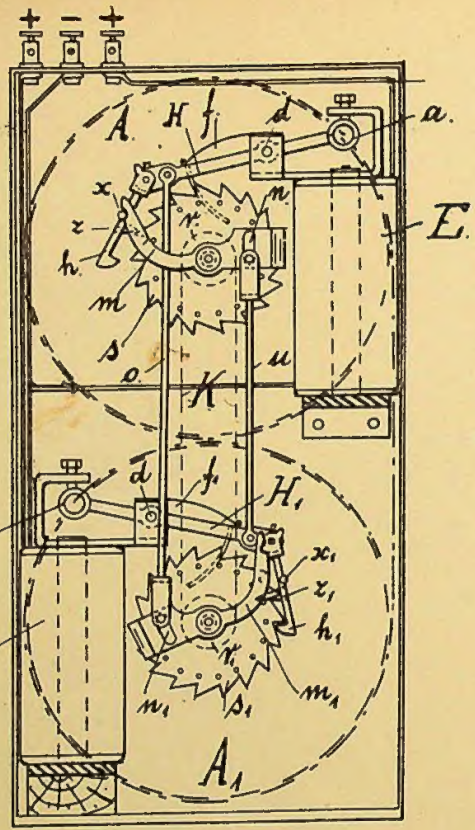


Fig. 3.

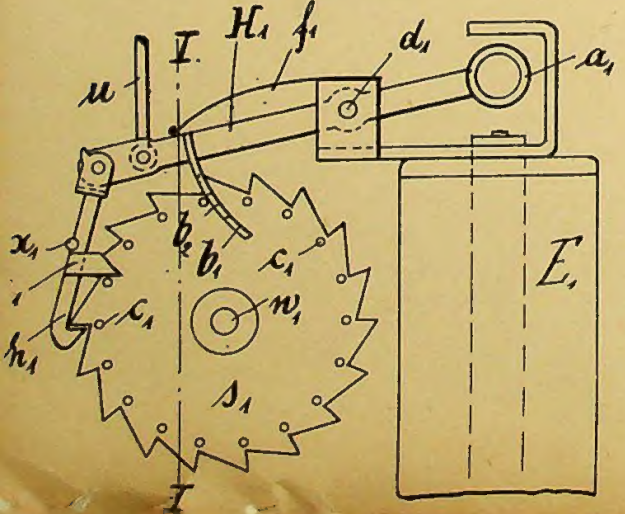
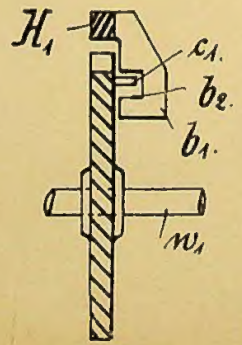


Fig. 5.



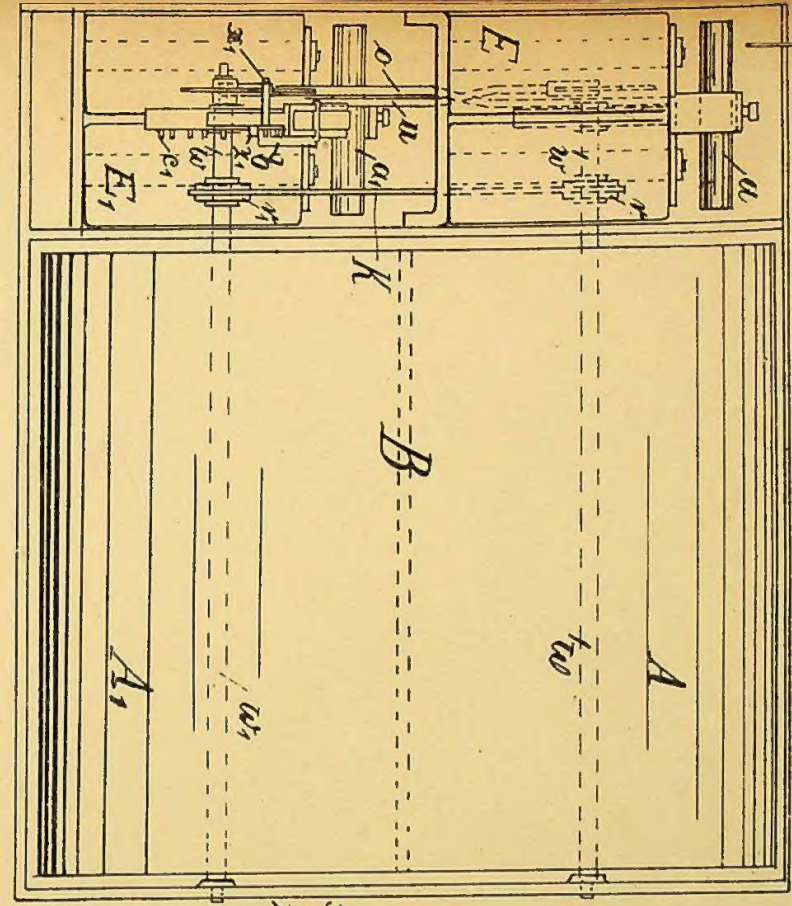


Fig. 2.

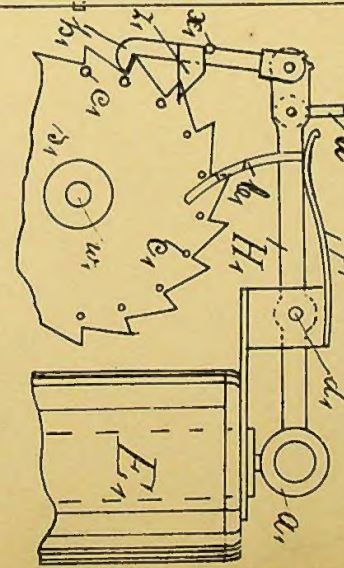


Fig. 4

40/370 Z Anmeldung

5064

A.D. 1897

116 SIGNALS.
Indicators.
Station.

N° 5064 A.D. 1897

Date of Application 25th Feb., 1897—Accepted, 15th May, 1897

DUPLICATE

COMPLETE SPECIFICATION.

Improvements in and connected with Station-indicators.

FERDINAND ZIPPERLING 18 Katzlerstrasse. Berlin, Kingdom of Prussia Empire of Germany, Cooper do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement :—

The present invention relates to an apparatus which enables to show in travelling railway trains the names of the stations in either direction ; without the mechanism having to be interfered with from outside.

In the accompanying drawing

Fig. 1 is the front-view of the mechanism the head-wall of it being removed.

Fig. 2 is the longitudinal view, with the side-wall taken off.

Fig. 3 shows the click-mechanism in its state of repose ;

Fig. 5 is a section I I of the click-mechanism in Fig. 3, and Fig. 4 shows it when worked.

Two equally running rollers A A_1 are carrying a strip B of paper, linen, raw silk or the like, which passes from one roller to the other and has printed on it the names of the stations, advertisements, or other indications. These rollers A A_1 which, in order to work uniformly, are connected with each other by toothed or chain-wheels with chain ($r\, r_1\, k$), are moved by electro-magnets E E_1, one for each direction of turning. The electro-magnets E E_1 are attracting the armatures $a\, a_1$ which latter ($a\, a_1$) are each turning forward a click-wheel $s\, s_1$ each by one tooth and each by means of a double-lever H H_1 on the other end of each of which a click-hook $h\, h_1$ is attached. Now as the click-wheels must have teeth suitable for forward and backward motion the two detents $h\, h_1$ must check each other. For this purpose both parts are so connected by rods, that the active lever every time disengages the detent of the inactive lever. In Fig. 1 the electro-magnet E_1 is active. At the lever H_1 is the rod u, which is guided in a slit n of the double lever m, turning loosely on the shaft of the click-wheel s. When the electro-magnet E_1 attracts the armature a_1, the rod u goes upwards and glides ineffective into the slit of the lever-end. The detent h lies with its pin x in a hollow of the lever-end m and is thus free from the click-wheel s ; this enables the click-wheel S to turn backward. The apparatus thus works through the electro-magnet E_1. If the train is returning on the same line the electro-magnet E is excited ; the same attracts the armature a and draws the rod o upwards ; as the latter now stands at the upper end of the slit n_1 of the lever m_1, it draws this lever-end from m_1 upwards, the other lever-end goes down and glides along the pin x_1 of the detent h_1 thereby pressing the latter off from click-wheel s_1 until x_1 places itself into the groove of the lever and this fixes itself; in releasing the armature a and lowering the rod o its lower end again glides ineffective into the slit n_1 downward and thus the detent h_1 is disengaged. By lifting the lever-end H the upper detent h is also lifted and with it lever m moves upward, until the detent h leans against the wheel s and the pin x ceases to hold the lever m by the weight of the detent, then the heavier side of the lever m acts which lies by the slit n and lever m takes a straight position, similar for example as lever m_1 lies in Fig. 1, where the pivot x cannot touch the lever m and place itself into the groove. Figs. 3, 4 and 5 show a brake as it must be engaged in the sudden effect taken by the electro-magnet in order to stop the living power of the rotated bodies. For this purpose the click-wheel (s_1) is

provided with pins c_1 according to the number of teeth. At the oscillating lever H_1 is a plate b_1 bent in the circumference round d_1 with a notch b_2 through which the pins c_1 can pass. When in moving the click-wheel s_1 by the click-lever h_1 a pin b_1 has passed through the notch b_2, the full part of plate b_1 enters into the circle of c_1 and the next pin can only get as far as the plate. Thus the wheel s_1 can never be turned more than by one tooth. A second safety against unintentional turning which may be caused by the shocks of the carriage, is effected by the tooth z_1 provided at the detent, which places itself before one of the pins c_1 and thus secures the click-wheel in connection with the detent h_1 against moving. The levers H H_1 are always kept by a spring $f f_1$ so that the armatures $a a_1$ are suspended over the electro-magnet E E_1.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:

1. In a station- and business-indicator the exclusive jumping action, forward and backward, of two drums (A A_1) carrying a ribbon (B) with the names &c. rolled off or on by two electro-magnets independent of each other, each driving the click-wheel belonging to it one tooth forward by its armature (a) in connection with a lever and click, fixing and securing it, and at the same time disengaging the other magnet in order to permit the forward-turning of the apparatus substantially as described.

2. In the lever and click-apparatus indicated in the previous claim the modification of the peculiarly shaped double levers ($m m_1$) provided with grooves for receiving the pins ($x x_1$) at the detents ($h h_1$), and a longitudinal slit ($n n_1$) in the other end for receiving the rods ($o u$) worked by the said levers (H H_1) for moving the levers ($m m_1$) and thus effecting disengagement and fixing each one of the detents, substantially as described.

3. In the lever and click-arrangement indicated in Claim 1 the modification of a nose (z) arranged at the detent (h h_1), and a plate fixed at the lever (H H_1) provided with a notch for letting pass the pins (c_1) arranged at the click-wheel (s s_1), which, lifted up by the lever (H H_1), holds fast the following pin after the previous one has passed, substantially as described.

Dated this 20th day of February 1897.

ERICH PETERS,
Agent for Ferdinand Zipperling.

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